

shall ensure that the load is distributed so as not to exceed the carrying capacity of any steel joist.

(2) Except for paragraph (e)(4) of this section, no construction loads are allowed on the steel joists until all bridging is installed and anchored and all joist-bearing ends are attached.

(3) The weight of a bundle of joist bridging shall not exceed a total of 1,000 pounds (454 kg). A bundle of joist bridging shall be placed on a minimum of three steel joists that are secured at one end. The edge of the bridging bundle shall be positioned within 1 foot (.30 m) of the secured end.

(4) No bundle of decking may be placed on steel joists until all bridging has been installed and anchored and all joist bearing ends attached, unless all of the following conditions are met:

(i) The employer has first determined from a qualified person and documented in a site-specific erection plan that the structure or portion of the structure is capable of supporting the load;

(ii) The bundle of decking is placed on a minimum of three steel joists;

(iii) The joists supporting the bundle of decking are attached at both ends;

(iv) At least one row of bridging is installed and anchored;

(v) The total weight of the bundle of decking does not exceed 4,000 pounds (1816 kg); and

(vi) Placement of the bundle of decking shall be in accordance with paragraph (e)(5) of this section.

(5) The edge of the construction load shall be placed within 1 foot (.30 m) of the bearing surface of the joist end.

§ 1926.758 Systems-engineered metal buildings.

(a) All of the requirements of this subpart apply to the erection of systems-engineered metal buildings except §§ 1926.755 (column anchorage) and 1926.757 (open web steel joists).

(b) Each structural column shall be anchored by a minimum of four anchor rods (anchor bolts).

(c) Rigid frames shall have 50 percent of their bolts or the number of bolts specified by the manufacturer (whichever is greater) installed and tightened on both sides of the web adjacent to

each flange before the hoisting equipment is released.

(d) Construction loads shall not be placed on any structural steel framework unless such framework is safely bolted, welded or otherwise adequately secured.

(e) In girt and eave strut-to-frame connections, when girts or eave struts share common connection holes, at least one bolt with its wrench-tight nut shall remain connected to the first member unless a manufacturer-supplied, field-attached seat or similar connection device is present to secure the first member so that the girt or eave strut is always secured against displacement.

(f) Both ends of all steel joists or cold-formed joists shall be fully bolted and/or welded to the support structure before:

(1) Releasing the hoisting cables;

(2) Allowing an employee on the joists; or

(3) Allowing any construction loads on the joists.

(g) Purlins and girts shall not be used as an anchorage point for a fall arrest system unless written approval is obtained from a qualified person.

(h) Purlins may only be used as a walking/working surface when installing safety systems, after all permanent bridging has been installed and fall protection is provided.

(i) Construction loads may be placed only within a zone that is within 8 feet (2.5 m) of the center-line of the primary support member.

§ 1926.759 Falling object protection.

(a) *Securing loose items aloft.* All materials, equipment, and tools, which are not in use while aloft, shall be secured against accidental displacement.

(b) *Protection from falling objects other than materials being hoisted.* The controlling contractor shall bar other construction processes below steel erection unless overhead protection for the employees below is provided.

§ 1926.760 Fall protection.

(a) *General requirements.* (1) Except as provided by paragraph (a)(3) of this section, each employee engaged in a steel erection activity who is on a walking/working surface with an unprotected

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side or edge more than 15 feet (4.6 m) above a lower level shall be protected from fall hazards by guardrail systems, safety net systems, personal fall arrest systems, positioning device systems or fall restraint systems.

(2) *Perimeter safety cables.* On multi-story structures, perimeter safety cables shall be installed at the final interior and exterior perimeters of the floors as soon as the metal decking has been installed.

(3) Connectors and employees working in controlled decking zones shall be protected from fall hazards as provided in paragraphs (b) and (c) of this section, respectively.

(b) *Connectors.* Each connector shall:

(1) Be protected in accordance with paragraph (a)(1) of this section from fall hazards of more than two stories or 30 feet (9.1 m) above a lower level, whichever is less;

(2) Have completed connector training in accordance with § 1926.761; and

(3) Be provided, at heights over 15 and up to 30 feet above a lower level, with a personal fall arrest system, positioning device system or fall restraint system and wear the equipment necessary to be able to be tied off; or be provided with other means of protection from fall hazards in accordance with paragraph (a)(1) of this section.

(c) *Controlled Decking Zone (CDZ).* A controlled decking zone may be established in that area of the structure over 15 and up to 30 feet above a lower level where metal decking is initially being installed and forms the leading edge of a work area. In each CDZ, the following shall apply:

(1) Each employee working at the leading edge in a CDZ shall be protected from fall hazards of more than two stories or 30 feet (9.1 m), whichever is less.

(2) Access to a CDZ shall be limited to only those employees engaged in leading edge work.

(3) The boundaries of a CDZ shall be designated and clearly marked. The CDZ shall not be more than 90 feet (27.4 m) wide and 90 (27.4 m) feet deep from any leading edge. The CDZ shall be marked by the use of control lines or the equivalent. Examples of acceptable procedures for demarcating CDZ's can be found in appendix D to this subpart.

(4) Each employee working in a CDZ shall have completed CDZ training in accordance with § 1926.761.

(5) Unsecured decking in a CDZ shall not exceed 3,000 square feet (914.4 m²).

(6) Safety deck attachments shall be performed in the CDZ from the leading edge back to the control line and shall have at least two attachments for each metal decking panel.

(7) Final deck attachments and installation of shear connectors shall not be performed in the CDZ.

(d) *Criteria for fall protection equipment.* (1) Guardrail systems, safety net systems, personal fall arrest systems, positioning device systems and their components shall conform to the criteria in § 1926.502 (see appendix G to this subpart).

(2) Fall arrest system components shall be used in fall restraint systems and shall conform to the criteria in § 1926.502 (see appendix G). Either body belts or body harnesses shall be used in fall restraint systems.

(3) Perimeter safety cables shall meet the criteria for guardrail systems in § 1926.502 (see appendix G).

(e) *Custody of fall protection.* Fall protection provided by the steel erector shall remain in the area where steel erection activity has been completed, to be used by other trades, only if the controlling contractor or its authorized representative:

(1) Has directed the steel erector to leave the fall protection in place; and

(2) Has inspected and accepted control and responsibility of the fall protection prior to authorizing persons other than steel erectors to work in the area.

§ 1926.761 Training.

The following provisions supplement the requirements of § 1926.21 regarding the hazards addressed in this subpart.

(a) *Training personnel.* Training required by this section shall be provided by a qualified person(s).

(b) *Fall hazard training.* The employer shall train each employee exposed to a fall hazard in accordance with the requirements of this section. The employer shall institute a training program and ensure employee participation in the program.